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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/832,670 | 04/11/2001 | Robert Daniel Maher III | NR-8 | 1803 |
| 7590 01/21/2005 | | | | |
| Craig J. Cox NETRAKE CORPORATION 3000 Technology Drive, Suite 100 Plano, TX 75074 | | | EXAMINER PATEL, ASHOKKUMAR B | |
| | | | ART UNIT 2154 | PAPER NUMBER |

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/832,670

Applicant(s)

MAHER ET AL.

Examiner

Ashok B. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-23 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-15, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 6 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Application Number 09/832, 670 was filed on 04/11/2001. Claims 1-23 are subject to examination.

Response to Arguments

2. Applicant's arguments filed October 05, 2004 have been fully considered but they are not persuasive for the following reasons:

Claims 1, 3-5, and 7-9,

a. In response to Applicant's arguments that "Lin explicitly states that the flow classification, or determining of actions to apply to a flow based on policies, is not appropriate for hardware and must be done by a policy application with its policy database residing on a separate server from the policy engine. (col. 2, lines 1-10, and col. 2, lines 56-61) Once a policy has been determined for a flow, the remaining packets not seen by the policy application. (col. 5, lines 19-23)" and "This is distinct from Lin where the determination of policy treatment for the flows and the database of policies themselves are not part of the policy engine, but rather in a completely separate piece of equipment running legacy software applications which do not operate at network speeds.". The reference teaches the concept of integrated service (col. 3, lines 20-24) platform, col. 4, lines 21-27 and 46-55 including "traffic Management" and defines the "Policy" which are "collectively stored in a policy database accessible to policy-based applications" in col.3, lines 25-33. As such, it represents the invention in Fig. 3 wherein the policy determination and database is part of the policy engine.

Claims 2, 10-15 and 18,

b. In response to Applicant's arguments that "Further, the use of multidirectional engines in Lin is not obvious, again because of the nature of how Lin makes policy determinations. As stated, Lin's policy determinations are made by third party application software running on a separate piece of equipment. Because the policy determination mechanism is outside of the network equipment it would not be obvious to include a second engine to handle data in the opposite direction. The reason the present invention is able to use two unidirectional policy engines for traffic flowing in opposite directions is that each policy engine is able to make policy determinations for traffic flowing through it.", first of all, as stated above, the policy determination and database is part of the policy engine, and the reference teaches "When multiple network services are to apply to the same flow, this is called "Integrated Services". Integrated Services simplify the management of various service policies, minimize potential policy conflicts and reduce TCO (Total Cost of Ownership).", as such the policy determination mechanism is not outside of the network equipment, and policy determinations are not made by third party application software and not running on a separate piece of equipment. Therefore, it would be obvious to include a second engine to handle data in the opposite direction, allowing both policy engines to make policy determinations for traffic flowing through them.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3-5, 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated Lin (US 6, 542, 508).

Referring to claim 1,

The reference teaches a network processing system for enforcing network policies on a network, the network consisting of multiple data packets, the data packets forming a plurality of flows, the network processing system (Abstract) comprising:

a network interface operable to receive data packets from the network and further operable to send processed data packets back onto the network; and (Fig.3, element 403,"data path")

a processing engine in communication with the network interface (Fig.3, element 106), the processing engine operable to associate each data packet with an identifier, wherein the identifier is associated with the flow of which the data packet is part, the processing engine further operable to compare each flow to a database stored in the processing engine, the database storing information on a set of programmable network

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policies, the set of programmable network policies determining a treatment for each flow, such that the processing engine is able to modify and direct the data packets according to the treatment indicated.(col.4, lines 54-67 thru col.5, lines 4-25 and Fig.3).

Referring to claims 3 and 4,

The reference teaches the network processing system of claim 1 wherein the processing engine maintains a state for one or more flows, the state associated with each flow using the identifier, and wherein the state existing for the particular flow at the time a new packet belonging to the particular flow is examined is used in conjunction with the database to determine the treatment.(col.4, lines 65-67 thru col.5, lines 1-10).

Referring to claim 5,

The reference teaches the network processing system of claim 1 wherein the processing engine is able to examine the entire contents of each packet. (col.5, lines 11-25).

Referring to claim 7,

The reference teaches the network processing system of claim 1 wherein the set of programmable network policies are stored as signatures in a signature memory. (Fig.3, element 202).

Referring to claim 8,

The reference teaches the network processing system of claim 1 wherein the processing engine includes a header preprocessor for examining header information in the packet, a content processor for comparing the packet to the database and determining a treatment, and a quality of service processor for modifying the packet and

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directing the packet according to the treatment. (col.4, lines 29-34, Fig.3, elements 206, col.3, lines 44-50, col.4, lines 35-37).

Referring to claim 9,

The reference teaches the network processing system of claim 8 wherein each processing engine further includes a microprocessor for supplemental operations. (Fig.3, elements 206, Abstract).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 10-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6, 542, 508)

Referring to claim 2,

Keeping in mind the teachings of the reference Lin as stated above, the reference fails to teach a second processing engine, wherein each processing engine is unidirectional in the opposite direction thereby creating a bi-directional network processing system.

However, if another identical policy engine, taught by Lin, is added to the network processing system, then the system can have an ability to handle the traffic flow independently in opposite directions. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to provide two policy

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engines identical to the one taught by Lin such that the traffic from two directions can be handled, and as such producing bi-directional policy engine incorporated into the network processing system.

Referring to claims 10, 11 and 12,

The reference teaches network processing system for enforcing network policies on a network, the network consisting of a plurality of data packets, the plurality of data packets forming a plurality of flows, the network processing system (Abstract) comprising:

- at least one left line interface operable to receive data packets from the network and to send processed data packets onto the network; (Fig.3, element 403, "data path")

- a right processing engine receiving data packets from the left interface, and sending processed data packets to the right line interface;(Fig.3 , element 106)

- the right processing engine further comprising:

- a traffic flow processor (Fig. 3, element 204, flow classifier)processing the data packets to associate each data packet with a particular flow, to maintain state for a subset of flows, and to compare each flow to a database of network policies, the data base of network policies indicating a treatment for the data packets of each flow;

- a quality of service processor(Fig.3, element 206, action processor)
- communicating with the traffic flow processor and receiving the treatment from the traffic flow processor instructing the quality of service processor how to modify the contents of the data packet and which quality of service to give the data packet. (col.4, lines 65-67 thru col.5, lines 1-10).

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The reference fails to teach at least one right line interface operable to receive data packets from the network and to send processed data packets onto the network; and a left processing engine receiving data packets from the right interface, and the left processing engines further comprising: a traffic flow processor processing the data packets to associate each data packet with a particular flow, to maintain state for a subset of flows, and to compare each flow to a database of network policies, the data base of network policies indicating a treatment for the data packets of each flow; a quality of service processor communicating with the traffic flow processor and receiving the treatment from the traffic flow processor instructing the quality of service processor how to modify the contents of the data packet and which quality of service to give the data packet. However, if another identical policy engine, taught by Lin, is added to the network processing system, then the system can have an ability to handle the traffic flows independently in opposite directions. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to provide two policy engines identical to the one taught by Lin such that the traffic from two directions can be handled, and as such producing bi-directional policy engine incorporated into the network processing system.

Referring to claim 13,

The reference Lin teaches the network processing system of claim 10 wherein the traffic flow processor is comprised of a header preprocessor and a content processor, the header preprocessor operable to examine header information for each packet, and the

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content processor operable to compare the packet with the database of network policies. (col.4, lines 29-34, Fig.3, elements 206, col.3, lines 44-50, col.4, lines 35-37).

Referring to claim 14,

The reference Lin teaches the network processing system of claim 10 wherein the database of network policies is a memory image of signatures, the signatures forming the network policies. (Fig.3, element 202).

Referring to claim 15,

The reference Lin teaches the network processing system of claim 10 wherein the state existing for the particular flow at the time a new packet belonging to the particular flow is examined is used in conjunction with the database to determine the treatment. (col.4, lines 65-67 thru col.5, lines 1-10).

Referring to claim 18,

The reference teaches the network processing system of claim 10 wherein the left and right processing engines further comprise a microprocessor for supplemental processing operations. (Fig.3, elements 206, Abstract).

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6, 542, 508) in view of Natarajan et al. (hereinafter Natarajan)(US 6, 751, 662).

Referring to claim 17,

Keeping in mind the teachings of the reference Lin as stated above, the reference fails to teach wherein the management interface is further operable to retrieve statistical and event information from each of the network processing systems. The reference Natarajan teaches "A feedback-based adaptive network is described wherein at least a

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portion of the network elements report operating information relating to network conditions to a centralized data store. The information which is reported to the data store is analyzed by a policy engine which includes a plurality of application specific plug-in policies for analyzing selected information from the data store and for computing updated control information based upon the analysis of the information.” (Abstract).(the management interface is further operable to retrieve statistical and event information from each of the network processing systems.). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to modify Lin by adding the capabilities of Natarajan such that based on the information retrieved from the network is analyzed by the policy engine and If it is determined that a particular characteristic of the network does not conform with the standards established for that characteristic, the policy which controls that particular characteristic of the network may be automatically and dynamically modified to thereby affect the network performance as taught by Natarajan. It is well known in the art to establish communications and exchange information between different components and modules such that the control over the network in maintained.

Allowable Subject Matter

Referring to claims 6 and 16,

Claims 6 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claims 19-23,

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Claims 19-23 are allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

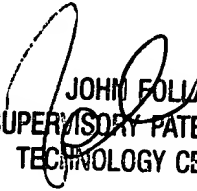
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (571) 272-3972. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abp


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